What is claimed is:

      1.   A method for jumping tracks on a double-layer optical disk from a first address A on a first data layer to a target address D on a second data layer, comprising:

5   a.   reading the first address A where the optical head is currently positioned;

      b.   jumping to the second data layer;

      c.   reading a relative second address B on the second data layer that corresponds to the first address A on the first data layer; and

10   d.   if the second address B on the second data layer is smaller than the first address A on the first data layer, then:

      d1.   obtaining a third address C which is equal to the first address A minus the second address B;

      d2.   designating the first address A as the address where the optical

15 head is positioned, and obtaining a new target address D + C on the second data layer;

      d3.   performing a calculation function based on the first address A and the new target address; and

      d4.   moving the optical head to the new target address on the second

20 data layer.

      2.   The method of claim 1, wherein step d3 includes:
calculating the number of tracks that the optical head needs to be moved; and determining the movement direction of the optical head.

25

      3.   The method of claim 1, wherein the address shift includes:
adding the first address A to the target address D and then subtracting the second address B to obtain the new target address.

4.   A method for jumping tracks on a double-layer optical disk from a first address A on a first data layer to a target address D on a second data layer, comprising:

a.   reading the first address A where the optical head is currently

5   positioned;

b.   jumping to the second data layer;

c.   reading a relative second address B on the second data layer that corresponds to the first address A on the first data layer; and

d.   if the second address B on the second data layer is larger than the first

10   address A on the first data layer, then:

d1.   designating the second address B as the address where the optical head is positioned;

d2.   performing a calculation function based on the second address B and the target address D; and

15   d3.   moving the optical head to the target address D on the second data layer.

5.   The method of claim 4, wherein step d2 includes:

calculating the number of tracks that the optical head needs to be moved; and

20   determining the movement direction of the optical head.

6.   A method for jumping tracks on a double-layer optical disk from a first address A on a first data layer to a target address D on a second data layer, comprising:

a.   reading the first address A where the optical head is currently positioned;

b.   jumping to the second data layer;

c.   reading a relative second address B on the second data layer that corresponds to the first address A on the first data layer; and

d.   if the second address B on the second data layer is smaller than the first address A on the first data layer, then:

d1.   obtaining a third address C which is equal to the first address A minus the second address B;

d2.   designating the first address A as the address where the optical head is positioned, and obtaining a new target address D + C on the second data layer;

d3.   performing a calculation function based on the first address A and the new target address; and

d4.   moving the optical head to the new target address on the second data layer; and

e.   if the second address B on the second data layer is larger than the first address A on the first data layer, then:

e1.   designating the second address B as the address where the optical head is positioned;

e2.   performing a calculation function based on the second address B and the target address D; and

e3.   moving the optical head to the target address D on the second data layer.

7.   A method for jumping tracks on a double-layer optical disk from a first address A on a first data layer to a target address D on a second data layer, comprising:

a.   reading the first address A where the optical head is currently positioned;

b.   jumping to the second data layer;

c.   reading a relative second address B on the second data layer that corresponds to the first address A on the first data layer;

d.   if the second address B on the second data layer is smaller than the first address A on the first data layer, then shifting the address of the second address B on the second data layer and obtaining a new target address on the second data layer based on this address shift;

e.   performing a calculation function based on the first address A and the new target address; and

f.   moving the optical head to the new target address on the second data layer.

8.   A method for jumping tracks on a double-layer optical disk from a first address A on a first data layer to a target address D on a second data layer, comprising:

a.   reading the first address A where the optical head is currently positioned;

b.   jumping to the second data layer;

c.   reading a relative second address B on the second data layer that corresponds to the first address A on the first data layer;

d.   if the second address B on the second data layer is larger than the first address A on the first data layer, then performing a calculation function based on the second address B and the target address D, and moving the optical head to the target address D on the second data layer.